UNITED STATES PATENT AND TRADEMARK OFFICE

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EXAMINER
SNYDER, STEVEN G

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NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>16 April 2009</u>.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>10-20</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) <u>10-20</u> is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a)☐ All   b)☐ Some * c)☐ None of:
        1.☐ Certified copies of the priority documents have been received.
        2.☐ Certified copies of the priority documents have been received in Application No. _____.
        3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)
1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This is in response to the request for continued examination filed on April 16, 2009.

Status of Claims

Claims 10 – 20 are pending, of which claim 10 is in independent form.

Continued Examination Under 37 CFR 1.114

1.   A request for continued examination under 37 CFR 1.114, including the fee set

forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this

application is eligible for continued examination under 37 CFR 1.114, and the fee set

forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action

has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April

16, 2009 has been entered.

Response to Arguments

2.   Applicant's arguments with respect to claims 10 – 20 have been considered but

are moot in view of the new grounds of rejection.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4.   **Claims 10 – 12 and 17 – 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Brown et al., U.S. Patent 6,881,096 (hereinafter referred to as Brown) in view of Ferguson, U.S. Patent 5,933,826 (hereinafter referred to as Ferguson).**

Referring to claim 10, Brown discloses "A multipurpose semiconductor integrated circuit device" (Fig. 5) comprising: "a plurality of types of input/output interfaces" (Fig. 5, serial interface 64 and Ethernet interface 58. Also, column 2 lines 51 – 58, other interfaces can be added); "a non-volatile memory" (Fig. 5, flash memory).

Brown also discloses "The flash memory 66 stores the software that the controller block 56 uses to perform its functions" (column 6 lines 24 – 26).

Brown does not appear to explicitly disclose the non-volatile memory "including a file storage region for storing a script file and firmware in a non-volatile manner, the firmware including program modules for functioning of an application layer, the script file defining, using a script language, processes relating to data inputted and/or outputted though the plurality of types of input/output interfaces with the program modules."

However, Ferguson discloses controlling access to at least a portion of a directory (column 2 line 65 – column 3 line 2) and an access control mechanism that controls access to a program, such as a script, pseudo code, or object code (column 2 lines 52 – 64). Ferguson also discloses separating applications that interact with human users from applications that process requests (column 3 lines 44 – 59).

Therefore, while Ferguson also does not appear to explicitly disclose a file storage region for storing a script file and firmware, based on Ferguson's disclosure, it would have been obvious to one of ordinary skill in the art at the time of the invention to create regions in memory for storing scripts, firmware, etc.

Segmenting or fragmenting of memory is known in the art at the time of the invention and keeping the scripts, pseudo code, and object code separated would allow the system to make quicker decisions about access control.

Brown also does not appear to explicitly disclose "an interpreter capable of executing the script file."

However, Ferguson discloses maintaining security of executable content (column 1 lines 26 – 27), such as scripts, which require an interpreter for execution (column 1 line 63 – column 2 line 5).

Brown also does not appear to explicitly disclose "a file management system that admits access to the file storage region of the non-volatile memory through at least one of the plurality of types of input/output interfaces, the file management system being configured to allow a user to manipulate the script file stored in the file storage region in an exposed state without exposing the firmware stored in the file storage region."

However, Ferguson discloses limiting a given program's capability of accessing memory and programs (column 2 lines 26 – 39). Ferguson also discloses an access control mechanism that controls access to a program, such as a script, pseudo code, or object code (column 2 lines 52 – 64).

Therefore, while Ferguson does not appear to explicitly disclose allowing a user

to manipulate the script file in an exposed state, while the firmware remains not

exposed, it would have been obvious to one of ordinary skill in the art at the time of the

invention to do so since Ferguson discloses controlling access to scripts, pseudo code,

or object code.

The motivation for doing so can be seen in column 2 line 65 – column 3 line 2,

where it is stated that the access control mechanism controls access to at least a

portion of a directory.

Brown and Ferguson are analogous art because they are from the same field of

endeavor, which is network communications controlled by programs.

At the time of the invention, it would have been obvious to one of ordinary skill in

the art, having the teachings of Brown and Ferguson before him or her, to modify the

teachings of Brown to include the teachings of Ferguson so that a program cannot be

executed unless access has been permitted by a control mechanism.

The motivation for doing so would have been to protect the controller's memory

from unauthorized access and/or hacking on a directory or file level (as stated by

Ferguson in column 2 lines 26 – 39).

Therefore, it would have been obvious to combine Ferguson with Brown to obtain

the invention as specified in the instant claim.

As per claim 11, Brown discloses "one of the plurality of types of input/output

interfaces is a network interface that is accessed based on an address on a computer

network and supports at least one network protocol that is valid for the computer

network, another one of the plurality of types of input/output interfaces is a serial

interface that supports serial input/outputs, and the multipurpose semiconductor

integrated circuit device further comprises a transfer means for transferring data

between the network interface and the serial interface" (Fig. 5, serial interface 64 and

Ethernet interface 58. Also, controller block 56 handles protocol conversion).

As per claim 12, Brown does not appear to explicitly disclose "a plurality of script

files are stored in the file storage region."

However, Ferguson discloses Ferguson discloses maintaining security of

executable content such as scripts (column 1 lines 26 – 27).

Brown also does not appear to explicitly disclose "the multipurpose

semiconductor integrated circuit device further comprises a program management

system that monitors occurrences of events, selects one of the plurality of script files

that is associated with an event that has occurred, and causes a selected script file to

be executed by the interpreter."

However Ferguson discloses receiving a signal that an event has occurred and

triggering an appropriate method (column 10, lines 7 – 29 and the example given in

lines 30 – 42). Also, Ferguson discloses maintaining security of executable content

(column 1 lines 26 – 27), such as scripts, which require an interpreter for execution

(column 1 line 63 – column 2 line 5).

Brown and Ferguson are analogous art because they are from the same field of endeavor, which is network communications controlled by programs.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Brown and Ferguson before him or her, to modify the teachings of Brown to include the teachings of Ferguson so that an event causes a selection of a script to handle the event.

The motivation for doing so would have been to automate the system so the system does not merely store content passively (as described by Ferguson in column 10 lines 7 – 12).

Therefore, it would have been obvious to combine Ferguson with Brown to obtain the invention as specified in the instant claim.

As per claim 17, Brown discloses "a connector connected to one of the plurality of types of input/output interfaces" (Fig. 1, Ethernet connector).

As per claim 18, Brown discloses "a target device connected to one of the plurality of types of input/output interfaces" (column 6 lines 35 – 46, IO pins 20 used to communicate with an external device); and "a connector connected to another one of the plurality of types of input/output interfaces" (Fig. 1, Ethernet connector).

As per claim 19, Brown discloses "the non-volatile memory device is a flash memory" (Fig. 5, flash memory 60).

5.   Claims 13 – 14 are rejected under 35 U.S.C. 103(a) as being unpatentable
over Brown in view of Ferguson, as applied to claims 10 – 12 and 17 – 19 above,
further in view of Steinberg et al., U.S. Patent 6,628,325 (hereinafter referred to as
Steinberg), and further in view of Herrero et al., U.S. Patent Application
2004/0133626 (hereinafter referred to as Herrero).

   As per claim 13, Brown discloses "one of the plurality of types of input/output
interfaces is a network interface that admits accessing a computer network" (Fig. 5,
Ethernet interface 58 along with column 1 lines 28 – 35).

   Neither Brown nor Ferguson appears to explicitly disclose "the multipurpose
semiconductor integrated circuit device further comprises a web server system that
supplies at least one web output file stored in the file storage region via the network
interface in accordance with HTTP protocol, and the web server system supports CGI
and/or SSI and the program management system selects a script file designated using
CGI and/or SSI."

   However, Steinberg discloses storing data and placing the data on the web (Fig.
16). Steinberg also achieves the aspect of following the TCP/IP protocol (Fig. 7).

   Brown, Ferguson, and Steinberg are analogous art because they are from the
same field of endeavor, which is accessing data in memory.

   At the time of the invention, it would have been obvious to one of ordinary skill in
the art, having the teachings of Brown, Ferguson, and Steinberg before him or her, to

modify the teachings of Brown and Ferguson to include the teachings of Steinberg so that the system would have the capability of connecting to a serial port and a network interface, and converting between the two formats so that data received on the serial port can be transmitted via the network interface, and vice versa.

The motivation for doing so would have been to provide a means for connecting two devices that follow different protocols and allowing communication between the devices.

Also neither Brown nor Ferguson nor Steinberg appears to explicitly disclose "the web server system supports CGI and/or SSI and the program management system selects a script file designated using CGI and/or SSI."

However, Herrero discloses a web server that accepts CGI and SSI requests (page 5 table in the right column, typeX).

Brown, Ferguson, Steinberg, and Herrero are analogous art because they are from the same field of endeavor, which is accessing data in memory.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Brown, Ferguson, Steinberg, and Herrero before him or her, to modify the teachings of Brown, Ferguson, and Steinberg to include the teachings of Herrero so that web server that accepts CGI and SSI requests is used to place data on the web.

The motivation for doing so would have been to provide a means for connecting the system to the internet.

Therefore, it would have been obvious to combine Herrero and Steinberg with

Brown and Ferguson to obtain the invention as specified in the instant claim.

As per claim 14, it is known in the art that interface information, such as address

or identification information, can be obtained by running a process on a processor that

is connected to the interface. This information could then be used in any manner

desired by the user, such as displaying it on the web, as described in claim 13.

6.   Claims 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Brown in view of Ferguson, as applied to claims 10 – 12 and 17 – 19 above,

further in view of Mahajan, U.S. Patent 5,404,528 (hereinafter referred to as

Mahajan).

As per claim 15, neither Brown nor Ferguson appears to explicitly disclose "one

of the plurality of types of input/output interfaces is a PC interface for connecting to a

computer terminal, and the file management system admits the computer terminal to

access the file storage region as a mass storage class via the PC interface."

However, Mahajan discloses accessing "the file storage region as a mass

storage class" (Fig. 2 mass storage memory 120). Further, Mahajan discloses a LAN

interface that connects the system to a local area network (See Fig. 2). Also, in light of

applicant's specification, specifically paragraph [0016], an example of a PC interface is

a USB interface. It is known in the art that network connections are often wired

connections that could use USB cables and connectors. This meets the limitation of the

instant claim that states, "one of the plurality of types of input/output interfaces is a PC

interface for connecting to a computer terminal."

Brown, Ferguson, and Mahajan are analogous art because they are from the

same field of endeavor, which is accessing data in memory.

At the time of the invention, it would have been obvious to one of ordinary skill in

the art, having the teachings of Brown, Ferguson, and Mahajan before him or her, to

modify the teachings of Brown and Ferguson to include the teachings of Mahajan so

that the system would have the capability of connecting to a serial port and a network

interface, so that the device could attach to a PC as a mass storage device.

The motivation for doing so would have been to provide a means for connecting

the device to a PC in concordance with a widely used class that a PC would recognize.

Therefore, it would have been obvious to combine Mahajan with Brown and

Ferguson to obtain the invention as specified in the instant claim.

7.   Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over

Brown in view of Ferguson, as applied to claims 10 – 12 and 17 – 19 above, and

further in view of Kaji, Japanese Patent Application 2003-108539 (hereinafter

referred to Kaji) (from applicant's IDS).

As per claim 16, Brown discloses "one of the plurality of types of input/output interfaces is a network interface that admits accessing a computer network" (Fig. 5, Ethernet interface 58 along with column 1 lines 28 – 35).

Neither Brown nor Ferguson appears to explicitly disclose "the multipurpose semiconductor integrated circuit device further comprises a timer function and an SNTP client function for obtaining time information via the network interface and synchronizing the timer function, and the program management system selects one of the plurality of script files based on time information of the timer function."

However, Kaji discloses synchronizing timing between a client and a server. This is done by transmitting a command and performing calculations (translated abstract of Kaji).

Brown, Ferguson, and Kaji are analogous art because they are from the same field of endeavor, which is accessing data in memory.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Brown, Ferguson, and Kaji before him or her, to modify the teachings of Brown and Ferguson to include the teachings of Kaji so that timing information is used to select a script.

The motivation for doing so would have been to provide a means for determining which script is best suited for the current task.

Therefore, it would have been obvious to combine Kaji with Brown and Ferguson to obtain the invention as specified in the instant claim.

8.   **Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over
Brown in view of Ferguson, as applied to claims 10 – 12 and 17 – 19 above, and
further in view of Howard et al., U.S. Patent 6,954,850 (hereinafter referred to
Howard).**

As per claim 20, Brown does not appear to explicitly disclose "the file
management system is configured to provide, to the user, open generation and access
to the script file."

However, Ferguson discloses limiting a given program's capability of accessing
memory and programs (column 2 lines 26 – 39). Ferguson also discloses an access
control mechanism that controls access to a program, such as a script, pseudo code, or
object code (column 2 lines 52 – 64).

Therefore, while Ferguson does not appear to explicitly disclose allowing a user
to manipulate the script file in an exposed state, while the firmware remains not
exposed, it would have been obvious to one of ordinary skill in the art at the time of the
invention to do so since Ferguson discloses controlling access to scripts, pseudo code,
or object code.

The motivation for doing so can be seen in column 2 line 65 – column 3 line 2,
where it is stated that the access control mechanism controls access to at least a
portion of a directory.

Brown and Ferguson are analogous art because they are from the same field of
endeavor, which is network communications controlled by programs.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Brown and Ferguson before him or her, to modify the teachings of Brown to include the teachings of Ferguson so that access is selectively granted to program memory.

The motivation for doing so would have been to enhance security of programs (as described by Ferguson in column 1 lines 11 – 25).

Neither Brown nor Ferguson appears to explicitly disclose allowing access to the script file "for at least one of updating of the script file and maintenance of user logic."

However, Howard discloses updating program code in an adapter device with multiple interfaces (Fig. 2 and column 5 lines 47 – 67).

Brown, Ferguson, and Howard are analogous art because they are from the same field of endeavor, which is accessing data in memory.

At the time of the invention, it would have been obvious to one of ordinary skill in the art, having the teachings of Brown, Ferguson, and Howard before him or her, to modify the teachings of Brown and Ferguson to include the teachings of Howard so that program code could be updated after a user is selectively given access to program memory.

The motivation for doing so would have been to provide a means for updating a device's capabilities while maintaining a level of security.

Therefore, it would have been obvious to combine Howard with Brown and Ferguson to obtain the invention as specified in the instant claim.

Conclusion

9.   The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

U.S. Patent Application **2002/0086706** discloses a mobile device server.

U.S. Patent **4,972,470** discloses a programmable connector.

Contact Information

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to STEVEN G. SNYDER whose telephone number is

(571)270-1971. The examiner can normally be reached on Mon. - Thurs. 9:30 AM -

6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Dr. Henry Tsai can be reached on (571) 272-4176. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

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/Steven G Snyder/
Examiner, Art Unit 2184

/Henry W.H. Tsai/
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